

Remarks

Claims 11 - 30 are pending. Favorable reconsideration is respectfully requested.

Applicants wish to express their appreciation to Examiner Moore for her careful review of the claims and specification. The claims are subject to various objections and to rejections under 35 U.S.C. § 112 as set forth in the Office Action on pages 2 - 3. Claim 30 has been amended to depend from claim 11. Applicants' attorney apologizes for this error, and also that of claim 27, which has been amended to be dependent from claim 26, which was intended. Withdrawal of the objections to claims 30 and 27 is respectfully solicited.

Claims 11 to 27, and 30 have been rejected for use of the term "organic solvent". The claims have been amended to recite "solvent". However, it is respectfully noted that one skilled in the art, to whom the claims are addressed, recognizes that the solvents referred to are indeed organic solvents. *See, e.g.* page 17, last paragraph, where the solvents discussed there can be any of the customary solvents used in paint preparation. Withdrawal of the rejection of claims 11, 27, and 30 under 35 U.S.C. § 112 ¶1 is respectfully solicited.

Claims 11 to 27 and 30 have been rejected under 35 U.S.C. § 112 ¶2 as set forth in ¶4 of the Office Action. With respect to X, the Examiner is correct, and "sulfur" has been deleted from the definition. In claim 11, W is defined as "H or CH₃", support being found in the specification on page 11, line 6. "R'X'" has been changed to R'_x. In claims 26 and 28, "sulfur" has also been deleted.

In claims 11, 26, and 28, the period following reference to formula (6) has been deleted. As a result of these amendments, withdrawal of the rejections of the claims under 35 U.S.C. § 112 is respectfully solicited.

In claims 11, 26 and 28, the definition of R has been changed to eliminate the possibility of R being H, as silanol groups are not intended.

Claim 28 has been rejected under 35 U.S.C. § 102(b) or in the alternative under 35 U.S.C. § 103(a) over Majolo et al. ("*Majolo*"), of record. First, *Majolo*, as discussed in Applicants' last response, is directed only to aqueous dispersions of his polymers. Applicants' polymers cannot be prepared in the form of an aqueous dispersion because the terminal $\text{X-CH}_2\text{-Si(OR)}_3$ groups are far too reactive with water. The result would be premature curing, gellation, solidification, or, at a minimum, conversion of alkoxy groups to -OH groups, thus producing polymers not within the scope of the claims.

The Examiner has cited a lack of evidence of such reactivity. However, this reactivity is evident from the specification and the knowledge of one skilled in the art. Note page 2, line 23 to page 3, line 8, where conventional -Si(OR)_3 polymers are described as being reactive with wafer (moisture curable). Such compositions, particularly trimethoxysilyl-terminated polydimethylsiloxanes have been used for years as RTV-1 moisture curable caulks and sealants. It is well known that such compositions are stored in a moisture-free condition to avoid reaction, and in most if not all cases also contain a highly reactive moisture scavenger to ensure that any traces of water introduced with fillers, or which might migrate into the container (such as a caulk cartridge) during storage are immediately reacted and therefore unavailable to react with the alkoxysilyl end groups.

On page 6, polymers with a methylene group spacer between an alkoxysilyl group and a terminal urea group are described as being much more reactive than the alkoxysilyl-terminated polymers previously discussed. It is clear, therefore, that one skilled in the art recognizes that aqueous dispersions of the polymers of Applicants' coating compositions cannot be prepared, and are not within the scope of the claims.

Second, *Majolo* requires the polymers of his dispersions to contain $\text{-Si(Z)}_n(\text{OH})_{3-n}$ groups where n is 0, 1, or 2, thus always containing silanol hydroxyl groups, which are excluded from the claimed polymers of Applicants' coatings. *Majolo* does indeed describe (propylene spaced) polymers which on their face appear to be similar to Applicants' polymers containing trialkoxysilyl groups, but not as a coating, or to be used in a coating

process, as required by Applicants' claims. Rather, these compounds of *Majolo* are only used as intermediates to prepare his Si-OH group-containing polymers. *Majolo* does not disclose any coating process with such intermediates, but converts these to another compound.

The Examiner states that the subsequent hydrolysis of Applicants' alkoxy groups is not precluded by the claims. However, that is not the issue. Applicants' coating composition contains his methylene-spaced alkoxysilyl groups at the onset. *Majolo's* do not. If Applicants' groups later hydrolyze upon coating and curing that is not relevant. The issue is whether *Majolo's* compositions contain Applicants' polymers; they do not. *Majolo* does not disclose, nor does he teach or suggest any coating composition, much less one which is neat or dissolved in solvent¹, which contains Applicants' polymers. Rather, *Majolo* implies that such polymers should not be used in coating compositions, by selecting facially similar alkoxysilyl-terminated polymers and, instead of using these in coatings, reacts them to form different polymers for this use. This is a teaching away from the claimed invention.

Applicants are quite willing to amend their claims to state that their polymers are free of water, however, this is not believed to be necessary, as the presence of any significant amount of water would cause rapid reaction with the highly reactive polymers. *See* Applicants' previous comments regarding the high reactivity of these compounds.

Withdrawal of the rejections over *Majolo* under 35 U.S.C. § 102(b) and/or §103(a) is solicited.

Claims 11 - 14, 17 - 21, 24, 25, and 27 have been rejected under 35 U.S.C. § 102(b)/103(a) as unpatentable over Sakagami et al. ("*Sakagami*"), of record. As discussed previously, in Applicants' prior response, there is a significant and profound difference between

¹ All *Majolo's* coating compositions are aqueous dispersions, which require a solid phase, not a solution, and not neat. It is noted that not only is water highly reactive with Applicants' polymers, it is also not a solvent for them. Applicants' polymers dissolve in organic solvents and are insoluble in water, as is clear to one skilled in the art.

methylene and propylene-spaced polymers. The Examiner states (page 4, ¶8, second subparagraph, that “Applicants do not provide data or evidence of a significant and profound difference.” Applicants respectfully submit that this is incorrect. In the paragraph bridging pages 25 and 26 of the application, coatings prepared from the polymers of Examples 2 - 5 and those of Comparative Examples 1 and 2 are compared. The subject invention coatings, employing -O-CH₂-Si(alkoxy) functional polymers (methylene spaced) fully cured without exception in 20 - 30 minutes, even at room temperature, while the facially similar propylene spaced polymers with -O-(CH₂)₃-Si(alkoxy) groups, irrespective of the amount of catalyst and curing temperature, were without exception still soft and tacky even after several days. This is surely a significant and profound difference.²

Withdrawal of the rejections of the claims over *Sakagami* is solicited.


Entry of the amendment is earnestly solicited, as many of the present rejections were not formerly of record (objections and rejections under §112), and this amendment is believed to correct these issues. Moreover, in view of the claim amendments and particularly in view of the comparative showing, which was already present in the application as filed, Applicants submit that the claims are now in condition for allowance.

Applicants submit that the claims are now in condition for Allowance, and respectfully request a Notice to that effect. If the Examiner believes that further discussion will advance the prosecution of the Application, the Examiner is highly encouraged to telephone Applicants' attorney at the number given below.

²Applicants also find no enablement in *Sakagami*. *Sakagami* does not disclose, nor does he teach or suggest only compounds suitable for preparing methylene-spaced products within the scope of the claims.

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